Operation

GLASCRAFT
COMPOSITES EQUIPMENT BY GRACO

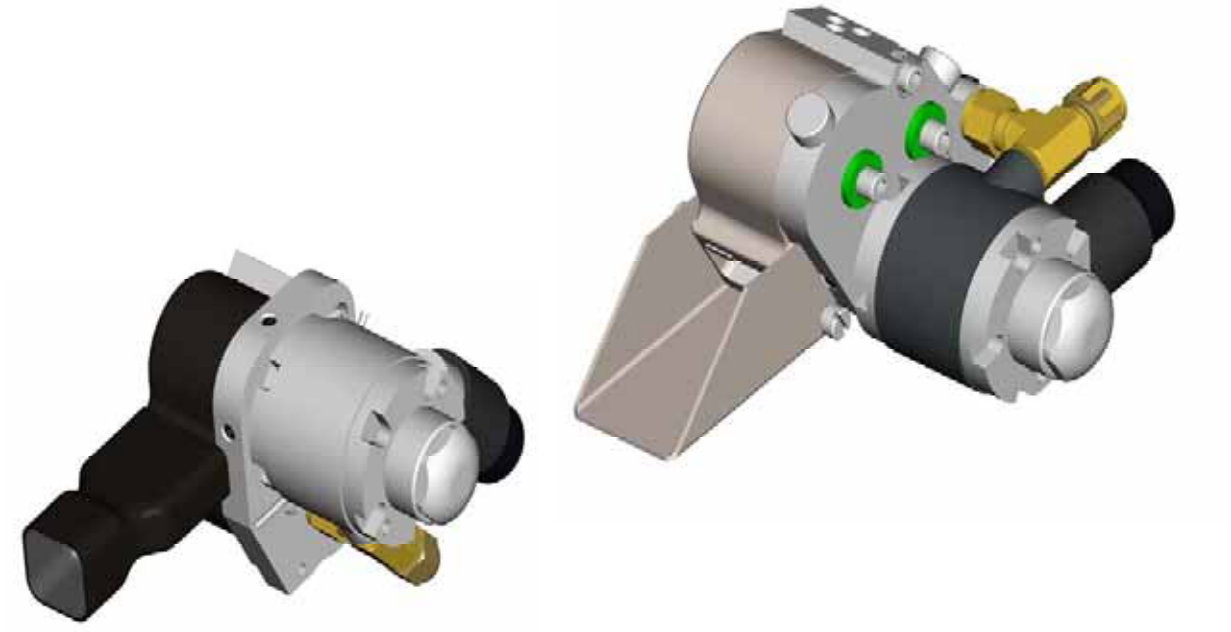
# Fiberglass Choppers

GC-1021B

***Fiberglass Roving Choppers***
***For use with Polyester Resin, and Gel-Coat***

Maximum air pressure:
100 psi. (0.7 MPa, 7 bar)

**Important Safety Instructions**
Read all warnings and instructions in this manual. Save these instructions.



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# Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

- **See Important Safety Information - MEKP, Polyester Resins and Gel-Coats and Spraying and Lamination Operations section of this manual.**

## WARNING

**FIRE AND EXPLOSION HAZARD**

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Ground all equipment in the work area. See **Grounding** instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

**PERSONAL PROTECTIVE EQUIPMENT**

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:

- Protective eyewear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

**MOVING PARTS HAZARD**

Moving parts can pinch or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** in this manual. Disconnect power or air supply.

**TOXIC FLUID OR FUMES HAZARD**

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read MSDS's to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
- Always wear impervious gloves when spraying or cleaning equipment.

# Warnings

## WARNING

**SKIN INJECTION HAZARD**

High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not point gun at anyone or at any part of the body.
- Do not put your hand over the dispense outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Engage trigger lock when not spraying.
- Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.

**EQUIPMENT MISUSE HAZARD**

Misuse can cause death or serious injury.

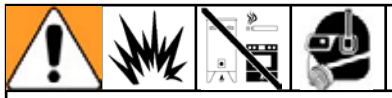
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

# Important Safety Information

## Methyl Ethyl Ketone Peroxide (MEKP)

MEKP is among the more hazardous materials found in commercial channels. Proper handling of the “unstable (reactive)” chemicals presents a definite challenge to the plastics industry. The highly reactive property which makes MEKP valuable to the plastics industry in producing the curing reaction of polyester resins and gel-coats also produces the hazards which require great care and caution in its storage, transportation, handling, processing and disposal.

Workers must be thoroughly informed of the hazards that may result from improper handling of MEKP, especially in regards to contamination and heat. They must be thoroughly instructed regarding the proper action to be taken in the storage, use and disposal of MEKP and other hazardous materials used in the laminating operation.



**MEKP is flammable and potentially explosive, as well as potentially damaging to the eyes and skin.**
**Read material manufacturer’s warnings and material MSDS to know specific hazards and precautions related to MEKP.**

Contaminated MEKP can become explosive. Prevent contamination of MEKP with other materials, which includes, but is not limited to polyester overspray, polymerization accelerators and promoters, and non-stainless metals. Even small amounts of contaminates can make MEKP explosive. This reaction may start slowly, and gradually build-up heat, which can accelerate until fire or an explosion result. This process can take from seconds to days.

Heat applied to MEKP, or heat build-up from contamination reactions can cause it to reach what is called its Self-Accelerating Decompisition Temperature (SADT), which can cause fire or explosion.

Spills should be promptly removed, so no residues remain. Spillage can heat up to the point of self-ignition. Dispose in accordance with manufacture’s recommendation.

Store MEKP in a cool, dry and well-ventilated area in the original containers away from direct sunlight and away from other chemicals. It is strongly recommended that the storage temperature remain below 86° F (30° C). Heat will increase the potential for explosive decomposition. Refer to NFPA 432.
Keep MEKP away from heat, sparks and open flames.

Current catalysts are premixed and do not require any diluents. GlasCraft strongly recommends that diluents not be used. Diluants add to the possibility of contaminates entering the catalyst system. Never dilute MEKP with acetone or any solvent since this can produce an extremely shock-sensitive compound which can explode.

Use only original equipment or equivalent parts from GlasCraft in the catalyst system (i.e.: hoses, fittings, etc.) because a hazardous chemical reaction may result between substituted parts and MEKP.

To prevent contact with MEKP, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons and goggles are required for everyone in the work area.

## Polyester Resins and Gel-Coats

Spraying materials containing polyester resin and gel-coats creates potentially harmful mist, vapors and atomized particulates. Prevent inhalation by providing sufficient ventilation and the use of respirators in the work area.

Read the material manufacturer’s warnings and material MSDS to know specific hazards and precautions related to polyester resins and gel-coats.

To prevent contact with polyester resins and gel-coats, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons and goggles are required for everyone in the work area.

## Spraying and Lamination Operations

Remove all accumulations of overspray, FRP sandings, etc. from the building as they occur. If this waste is allowed to build up, spillage of catalyst is more likely to start a fire.

If cleaning solvents are required, read material manufacture’s warnings and material MSDS to know specific hazards and precautions. (GlasCraft recommends that clean-up solvents be nonflammable.)

**GlasCraft** recommends that you consult OSHA Sections 1910.94, 1910.106, 1910.107 and NFPA No. 33, Chapter 16,17, and NFPA No. 91 for further guidance.

# Grounding

This equipment needs to be grounded.

Ground the dispense gun through connection to a GlasCraft approved grounded fluid supply hose.

Check your local electrical code and related manuals for detailed grounding instructions of all equipment in the work area.

*A grounding wire and clamp are provided, assembly p/n 17440-00 with all FRP equipment.*

# Set-Up

## Mounting Instructions
## B-410, LPA 2 Gun

*The following Mounting Instructions pertain to mounting a Model B-410 onto a Model LPA, Model LPA-II Spray Gun.*

**1.** Remove Set Screw, P/N D-145-08C from the Gun body located where the Chopper is mounted and replace at the top of the handle. (see Fig. 1)

**2.** Attach the Chopper assembly into the mounting hold and tighten with the Chopper snout pointing down into the resin spray pattern. The correct adjustments for glass entering the pattern will be done when the spray test is completed.

**3.** Chopper "On/Off" Lever, P/N B-310-11, located on the base of the Chopper mount, should be in the "OFF" position. (see Fig. 2)

**4.** Thread roving from box through the Roving Guidance system and into the back of the Chopper Feed Bar, P/N B-210-15. It is suggested that the top feed hole be used if only one strand of glass is being used.

**5.** After all components have been securely installed, turn on main air supply slowly until fully on.

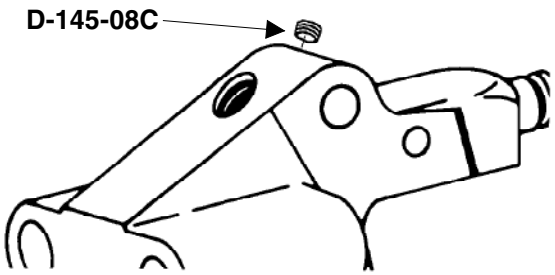


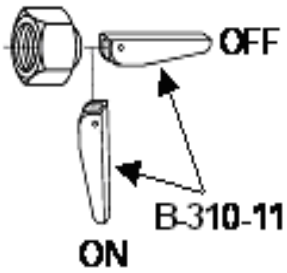

**Fig. 1**

**6.** Activate the Chopper "On/Off" Lever to the "On" position. (see Fig. 2)

**7.** Depressing the Gun Trigger fully, a spray pattern of resin and catalyst with chopped glass should now be present.

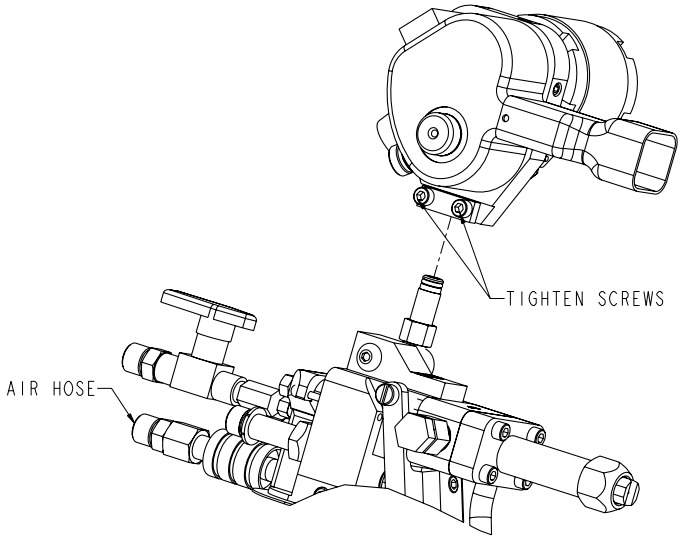
**8.** Adjust Chopper mount until chopped glass enters spray pattern at desired entry location. Chopped glass should be uniformly entering the spray pattern resulting in an evenly distributed resin spray and chopped glass pattern on the test substrate.

*Test spraying should be done on a clean piece of paper or cardboard and disposed of properly.*



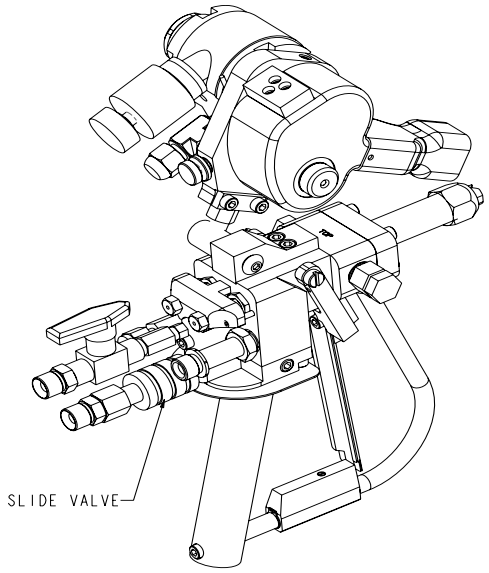

## Mounting Instructions
## B-410, & B-510, Indy Gun 23550-00

**1.** The B-410 / 510 Chopper Assy. Mounts to Cutter Pivot Tube, P/N 21491-00 on Chopper Rotating Mount, P/N 23513-00. Tighten down Bar, P/N B-310-4 with Screws, P/N 8212-16F. P/N, 17798-XX Hose attaches to fitting P/N 1880-00 in back of gun.

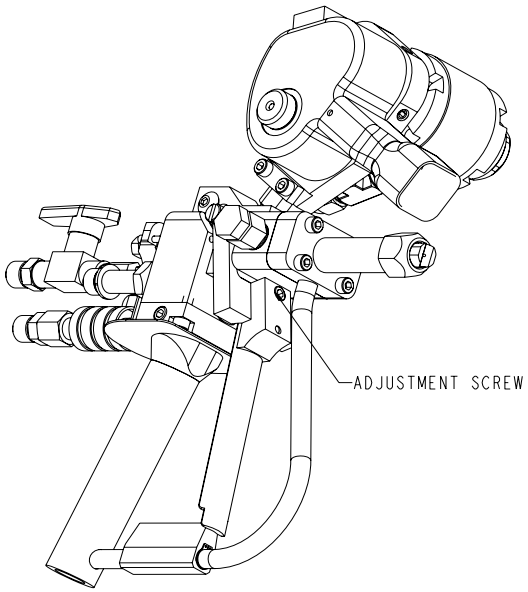


# Set-Up

**2.** The Slide Valve, P/N 20086-01 controls air to the Gun for the Chopper. Sliding it forward turns the air on, while sliding it back, turns the air off.




**3.** The Gun Trigger is staged: ¼ pull on the trigger will actuate material only. Full back on the trigger actutes the Chopper and Material. The Stager can be adjusted by adjusting the Set screw, P/N 23532-01 in the Gun Trigger, p/n 23503-00.




## Chopper Air Requirements

100 PSI / 8 CFM

## Adjusting Speed & Blower Air

**1.** The Blower Air is adjusted by the Thumb Screw, P/N B-210-32A2. Only a small amount of air is required to:

a. Cool Chopper Head.

b. Assist in Dispersing chop.

## Speed Control / Muffler

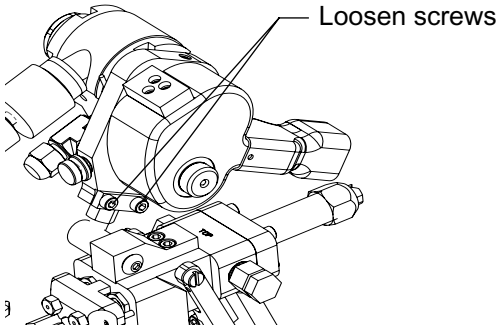
**1.** The Muffler Assembly controls the Amount, and Speed of air exhausting the Air Motor.

**2.** As the Speed Knob, P/N 21563-01 and Machine Screw, P/N 21567-24F is turned out, the Air Motor speed increases.

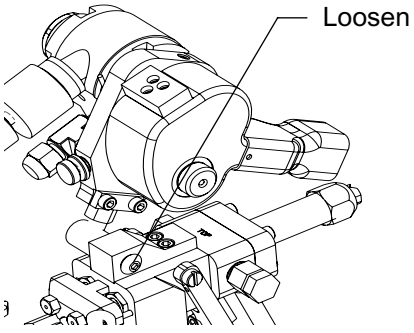
**3.** Once it is set, Lock the Knob / Screw down with the Body, P/N 21561-00.

## Adjusting Chopper Mount

**1.** Loosen Screw, P/N 8212-16F to twist the Chopper side to side on the Pivot Tube, P/N 21491-00. Retighten once it is set.




**2.** Loosen Screw, P/N 20188-16C to pivot the Chopper up & down on the Chopper Bracket, P/N 23512-00. Retighten once it is set.



# Set-Up

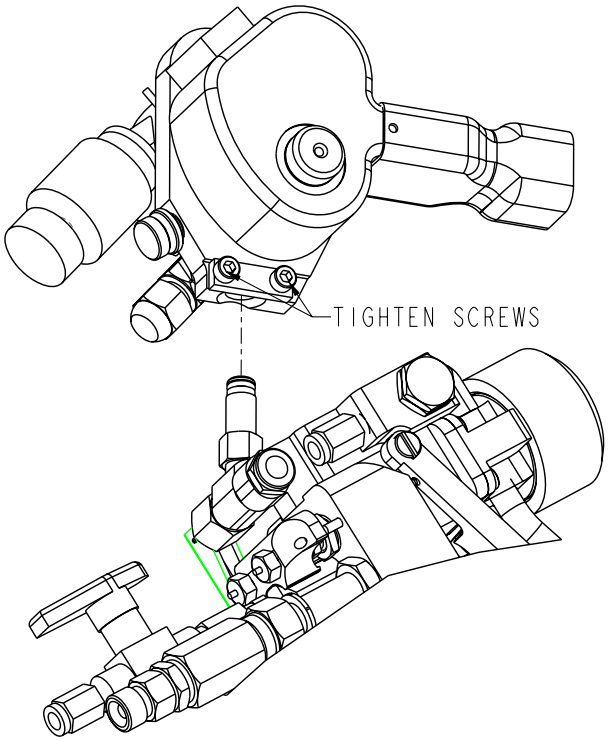
*For B-510*
*Loosen Lock Nut, P/N 7729-04, Pivot Chopper Mount to desired angle, Retighten P/N 7729-04. Once general position can be found, fine tuning can be adjusted by moving the chute, P/N B-510-22.*

**3.** The Snout, P/N 23543-00 is standard with the Indy System. The end of the Snout is adjustable. Optional snouts are available for the B-410 only, which include the B-210-91 and B-210-92.

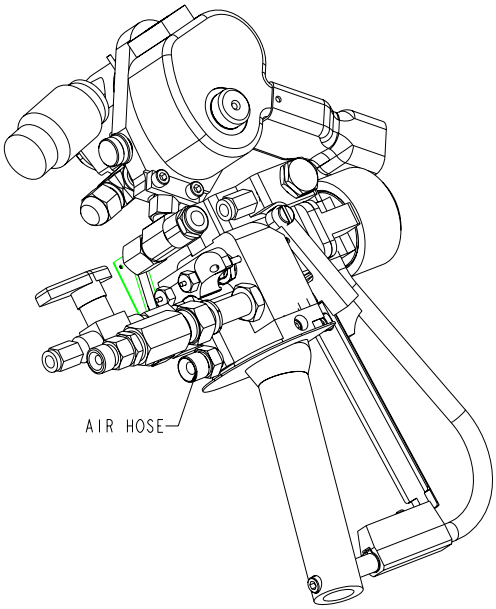
*Test spraying should be done on a clean piece of paper or cardboard and disposed of properly.*

### Mounting Instructions
### B-410, B-510, Indy-X Gun 23575-00

**1.** The B-410 / B-510 Chopper Assembly mounts to Cutter Pivot Tube, P/N 21491-00 on Chopper Valve, P/N 23569-00. Once Chopper is set, tighten Cutter Clip, P/N B-310-4 with Screws.

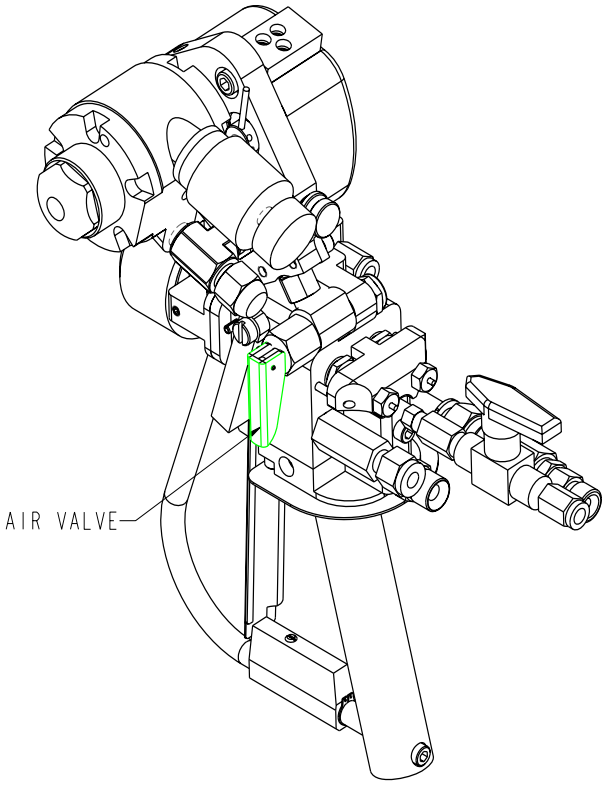



**2.** Air Hose P/N 17798-XX attaches to fitting, P/N 1880-00 on back of gun.



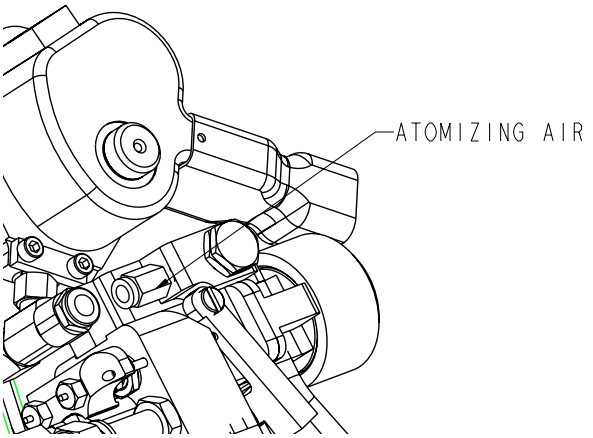

**3.** The Cutter Valve Lever, P/N B-310-11 controls air flow to the chopper. Perpendicular to the Chopper Valve = Air On.
Inline with Valve = Air OFF.

*This is a positive ON/OFF valve. It does not regulate Air Flow.*



# Set-Up

**4.** The Catalyst Atomizing Air Line connects to Connector Fitting, P/N 20796-00. When the gun is triggered, Line Air will run the Chopper Motor and regulated air will flow thru to the atomized circuit.




## Chopper Air Requirements

100 PSI @ 8 CFM

## Adjusting Speed & Blower Air

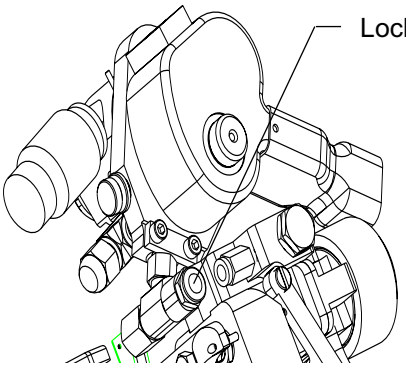
**1.** The blower air is adjusted by the Thumb Screw, P/N B-210-32A2. a small amount of air is required to:

a. Cool Chopper Head
b. Assist in Dispersing chop.

## Adjusting Chopper Mount

## Angle Adjust:

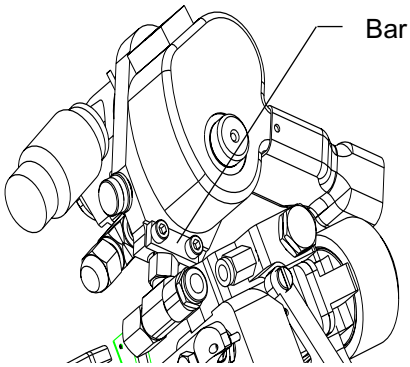
**1.** Loosen Lock Nut, P/N 7729-04, Pivot Chopper Mount to desired Angle. Retighten, P/N 7729-04 Hex Nut.




*For B-510*
*A general position can be found. Fine tuning of the Glass angle can be adjusted by moving the Chute P/N, B-510-22.*

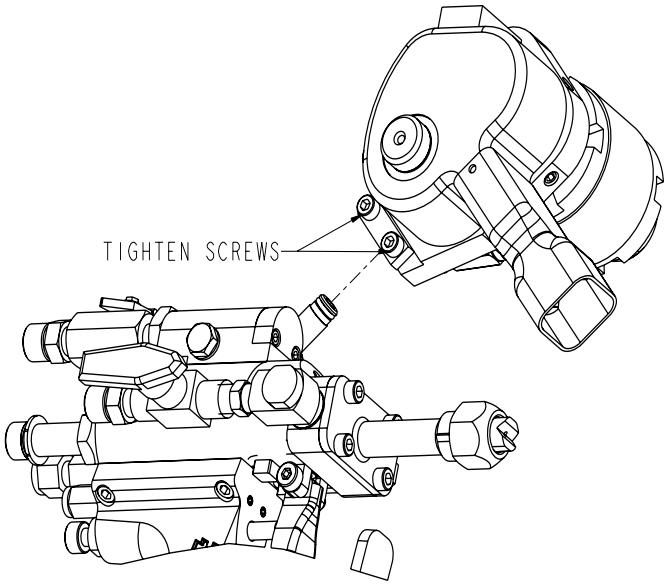
## Centering Adjust

Loosen Bar Screws, P/N 8212-16F and Twist Chopper left or right to desired location, then retighten P/N 8212-16F Shoulder Screw.



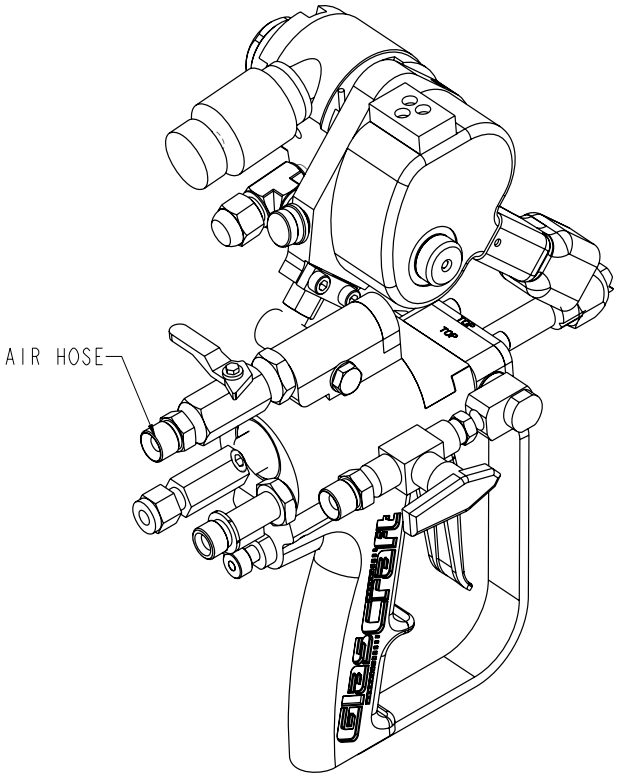

## Mounting Instructions
## B-410, B-510, Formula Gun 23750-00

**1.** The B-410 / B-510 Chopper Assembly mounts to Cutter Pivot Tube, P/N 21491-00. Once the Chopper is set, tighten Cutter Clip, P/N B-310-4 with Screws.



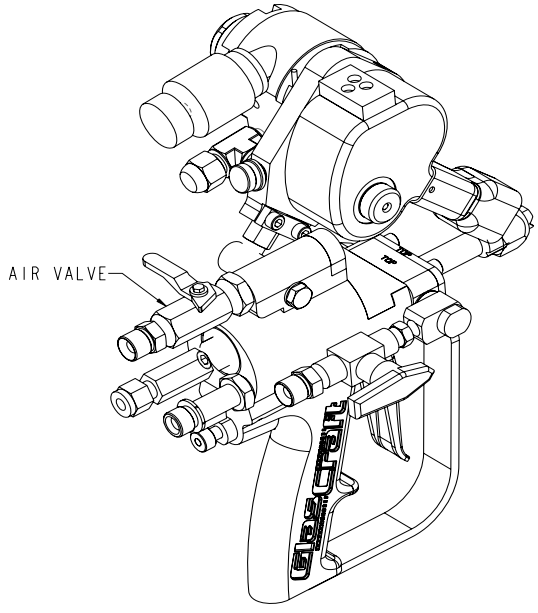
# Set-Up

**2.** Air Hose P/N 17798-XX attaches to fitting, P/N 1880-00 on back of gun.




**3.** The Cutter Valve, P/N 23776-00 controls the air flow to the chopper.

*This is a positive ON/OFF valve. It does not regulate Air Flow.*




## Chopper Air Requirements

100 PSI / 8 CFM

## Adjusting Speed & Blower Air

**1.** The Blower Air is adjusted by the Thumb Screw, P/N B-210-32A2. Only a small amount of air is required to:

a. Cool Chopper Head.

b. Assist in Dispersing chop.

## Speed Control / Muffler

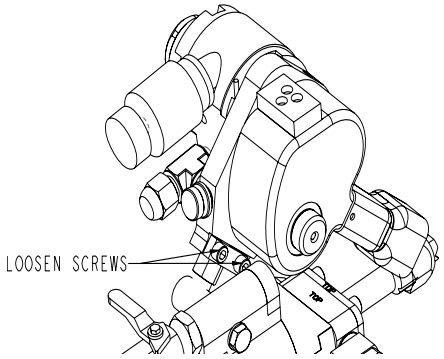
**1.** The Muffler Assembly controls the Amount, and Speed of air exhausting the Air Motor.

**2.** As the Speed Knob, P/N 21563-01 and Machine Screw, P/N 21567-24F is turned out, the Air Motor speed increases.

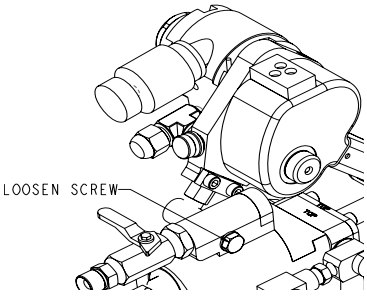
**3.** Once it is set, Lock the Knob / Screw down with the Body, P/N 21561-00.

## Adjusting Chopper Mount

**1.** Loosen Screw, P/N 8212-16F to twist the Chopper side to side on the Pivot Tube, P/N 21491-00. Retighten once it is set.



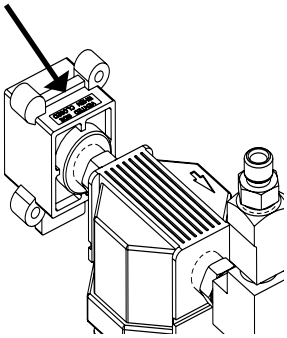

**2.** Loosen Screw, P/N 7958-16C to pivot the Chopper up & down on the Chopper Bracket, P/N 23512-00. Retighten once it is set.



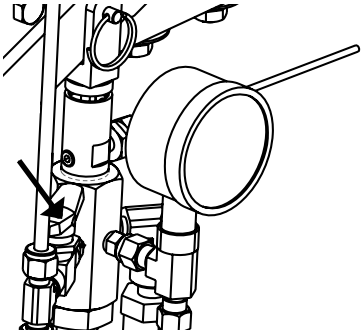
# Pressure Relief Procedure

*To relieve fluid and air pressures:*

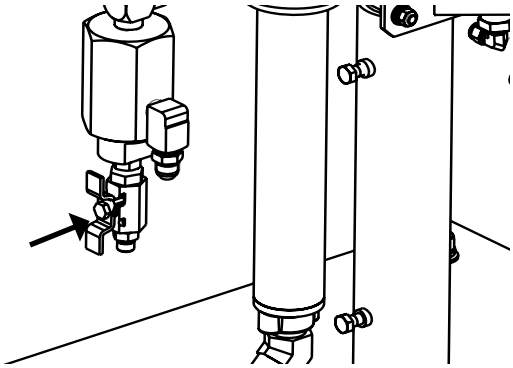
1. *Push down Yellow slide valve, P/N 21402-00 to bleed off air to system.*



2. *Open P/N 21228-00 on catalyst pump to recirculation position.*



3. *Open P/N 21192-00 on bottom of material pump.*



# Start-Up

## Air Requirements

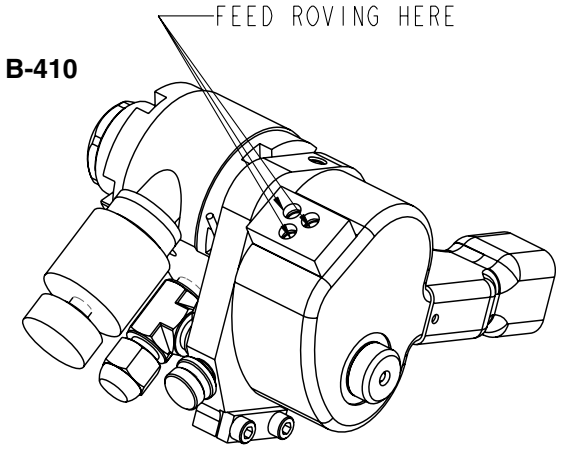
All GlasCraft Choppers require 8 CFM (cubic feet per minute) @ 100 PSI. of dry, filtered, compressed air. The air supply hose to the Chopper must be new and have at least a 5/16” inside diameter.

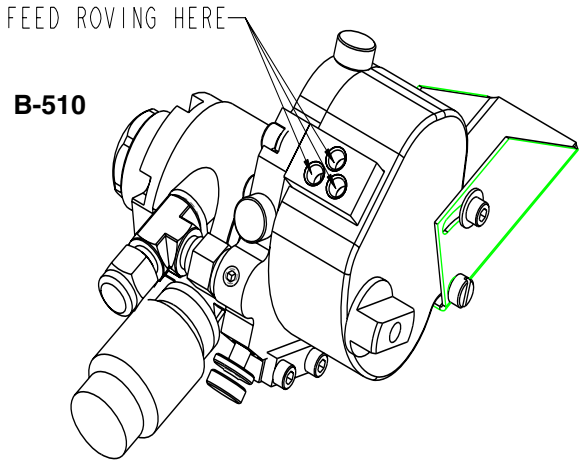
**Notice**

*Do not attempt to use lower air pressures or a smaller hose as erratic operation may result.*

## Chopper Operation
## Models B-410 / B-510

1. To introduce roving to the Chopper, cut the free end of the roving cleanly and double it over approximately one inch from the end. Feed into one of the three holes provided in the back of the cutter while running at moderate speed.

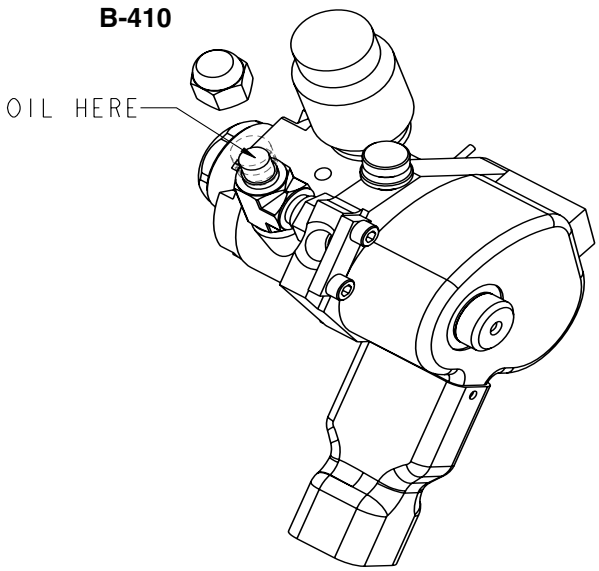


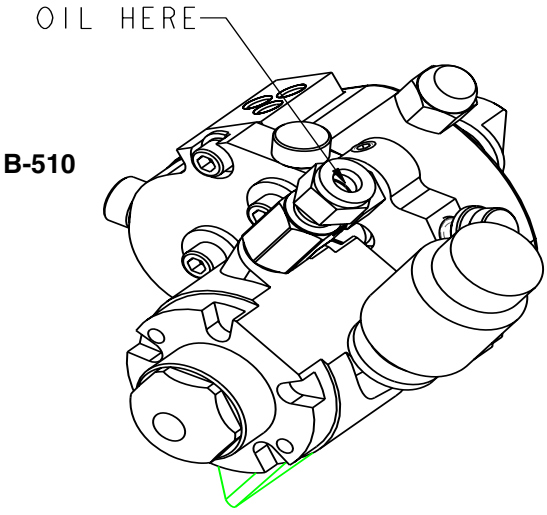




**Notice**

*Do not wet the roving or attempt to feed frayed roving into the Chopper as this may cause it to wrap around the feed roller and jam.*

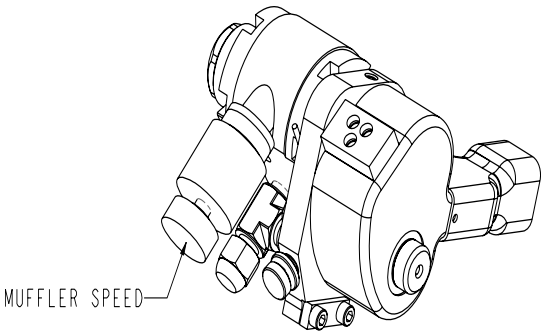
2. The Motor Oiler is located on the forward port of the Air Motor. It is recommended that the Oiler Felt, P/N 378, be lubricated with Air Motor Oil, P/N 562. Depending on use, it is generally recommended that two or three drops of oil be placed on the Felt every other day.



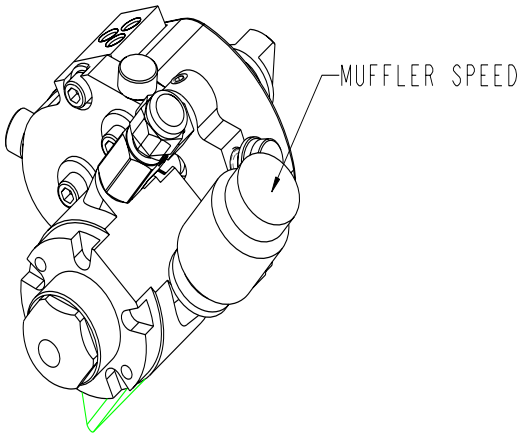



# Start-Up

**3.** The Muffler/Speed Control is located on the rear port of the Air Motor. Adjustment of Knob, P/N 21563-01 controls the Air Motor speed and determines the cutting rate. Adjust this valve until the desired glass content is achieved.

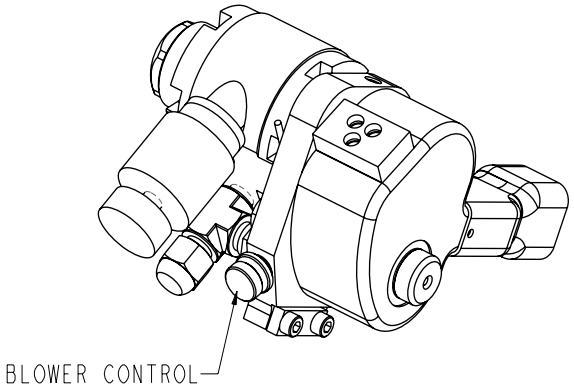



**B-410**

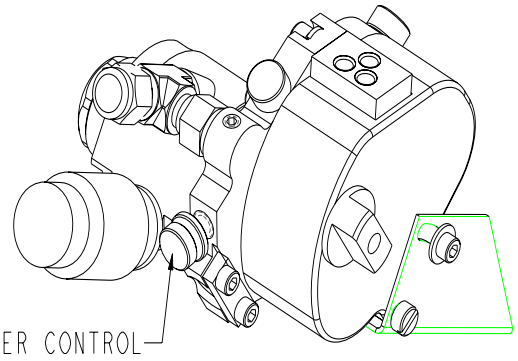



**B-510**

**4.** The Chopper Blower Control Valve is located on the rear of the Back Plate. Adjustment of Thumb Screw, P/N B-210-32A2 controls the amount of bypass air which serves to vary the dispersion of the cut roving as it leaves the Chopper.




**B-410**




**B-510**

*This Valve should be at least slightly open at all times or the Chopper may tend to fill and jam.*

**5.** Adjust this valve until a good glass/resin fan results with a minimum of drop-off. If an excessive amount of bypass air is used, the roving may filamentize or cotton, causing various wet-out problems.

**6.** When desired adjustment has been made, lock Thumb Screw, P/N B-210-32A2, in place by tightening Lock Nut, P/N B-210-32A1. Do not over-tighten!

## Roving Cut-Length Adjustment

The cut length of the roving fibers may vary from 1/2” to 4” depending upon the number of blades in the cutting head. The cutting head has a circumference of 4” and is divided by eight slots at 1/2” intervals. Any number of blades may be omitted to achieve cut-lengths greater than 1/2” or blends of lengths. The most popular length in use today is 1”, which may be achieved with four equally spaced blades. The chopper is delivered to you set in this matter.

*Relieve all air pressure from the system before attempting any repair or maintenance procedures on this equipment. Do not operate the Chopper with the cover or guard removed. The blades may fly free if improperly installed.*

# Parts

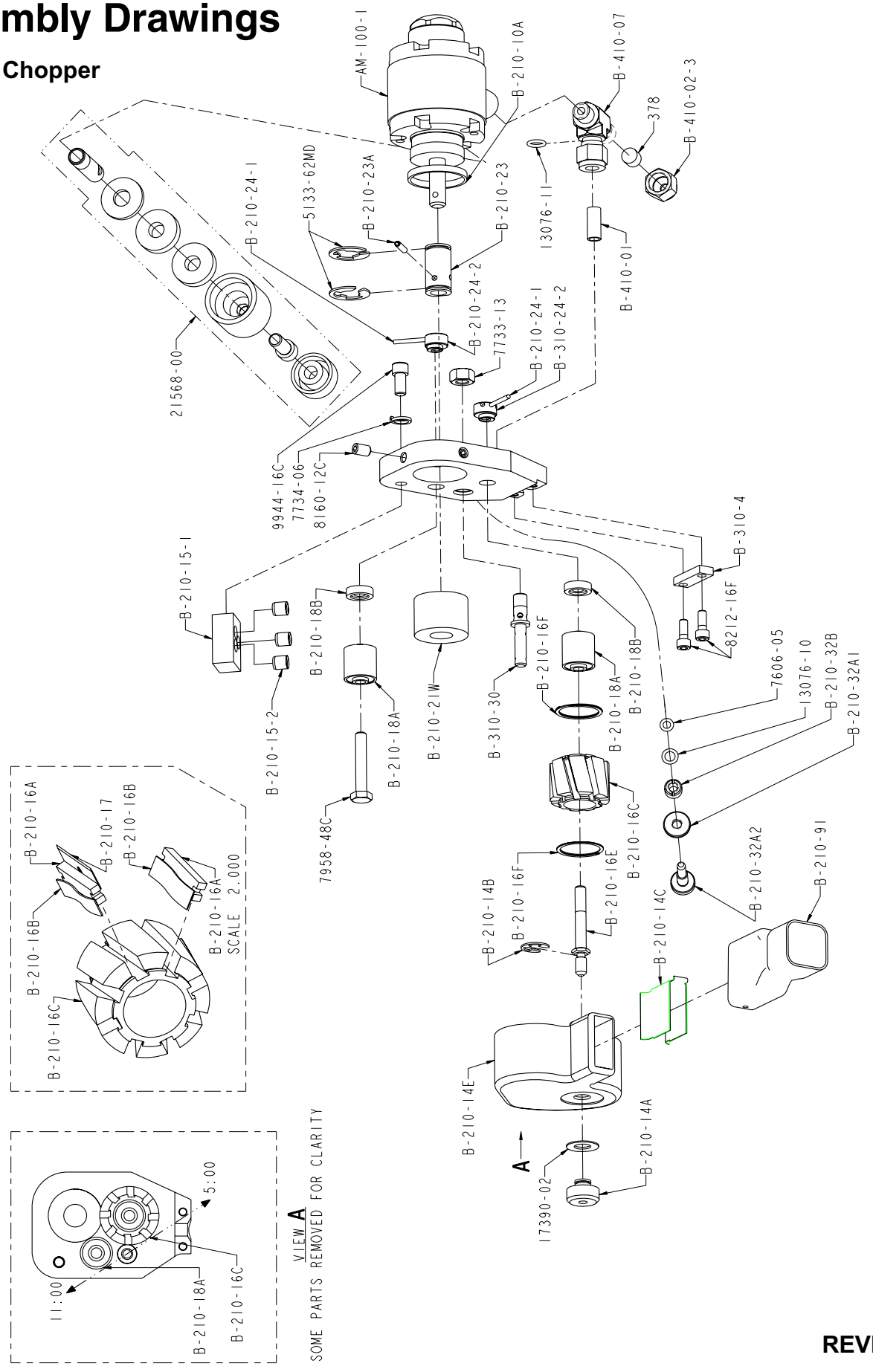
### Fiberglass Roving Choppers B-410 & B-510

| Standard Equipment | |
|---|---|
| **Part Number** | **Description** |
| B-410 | Fiberglass Chopper |
| GC-1021 | USER MANUAL |

| Standard Equipment | |
|---|---|
| **Part Number** | **Description** |
| B-510 | Fiberglass Chopper |
| GC-1021 | USER MANUAL |

# Assembly Drawings

## B-410 Chopper




**REVISION R**

# Assembly Drawings

### B-410 Chopper

| Part Number | Description |
|---|---|
| 378 | FELT OILER |
| 13076-10 | O-RING |
| 13076-11 | O-RING |
| 17390-02 | SPRING WASHER |
| 5133-62MD | SNAP RING |
| 7606-05 | O-RING |
| 7733-13 | NUT |
| 7734-06 | LOCK WASHER |
| 7958-48C | MACHINE SCREW |
| 8160-12C | SET SCREW |
| 8212-16F | MACHINE SCREW |
| 9944-16C | MACHINE SCREW |
| **21568-00** | **MUFFLER ASSEMBLY** |
| AM-100-1 | AIR MOTOR ASSEMBLY |
| B-210-10A | AIR MOTOR SPACER |
| B-210-14A | NUT GUARD |
| B-210-14B | SNAP RING |
| B-210-14C | GUARD LINER |
| B-210-14E | CHOPPER GUARD |
| B-210-15-1 | FEED BAR |
| B-210-15-2 | BUSHING |
| B-210-16A | CUTTING BLADE BAR |
| B-210-16B | RET.BAR SPRING |
| B-210-16C | CUTTER HEAD |
| B-210-16E | CUTTING HEAD BOLT |
| B-210-16F | SNAP RING |
| B-210-17 | CUTTING HEAD BLADE |
| B-210-32A2 | THUMB SCREW |
| B-210-32B | CONTROL BLOCK NUT |
| **B-210-71** | **CHOPPER PARTS KIT** |
| B-210-91 | CUTTER GUARD SNOUT |
| B-310-24-2 | ECCENTRIC NUT |
| B-310-30 | CHOPPER BLOWER TUBE |
| B-310-4 | CUTTER CLIP |
| B-410-01 | AIR MOTOR TUBE |
| B-410-02-3 | NUT CAP |
| B-410-07 | TEE SWAGE PIPE FITTING |
| B-410-13 | CUTTER BACK PLATE |
| GC-1021 | USER MANUAL |

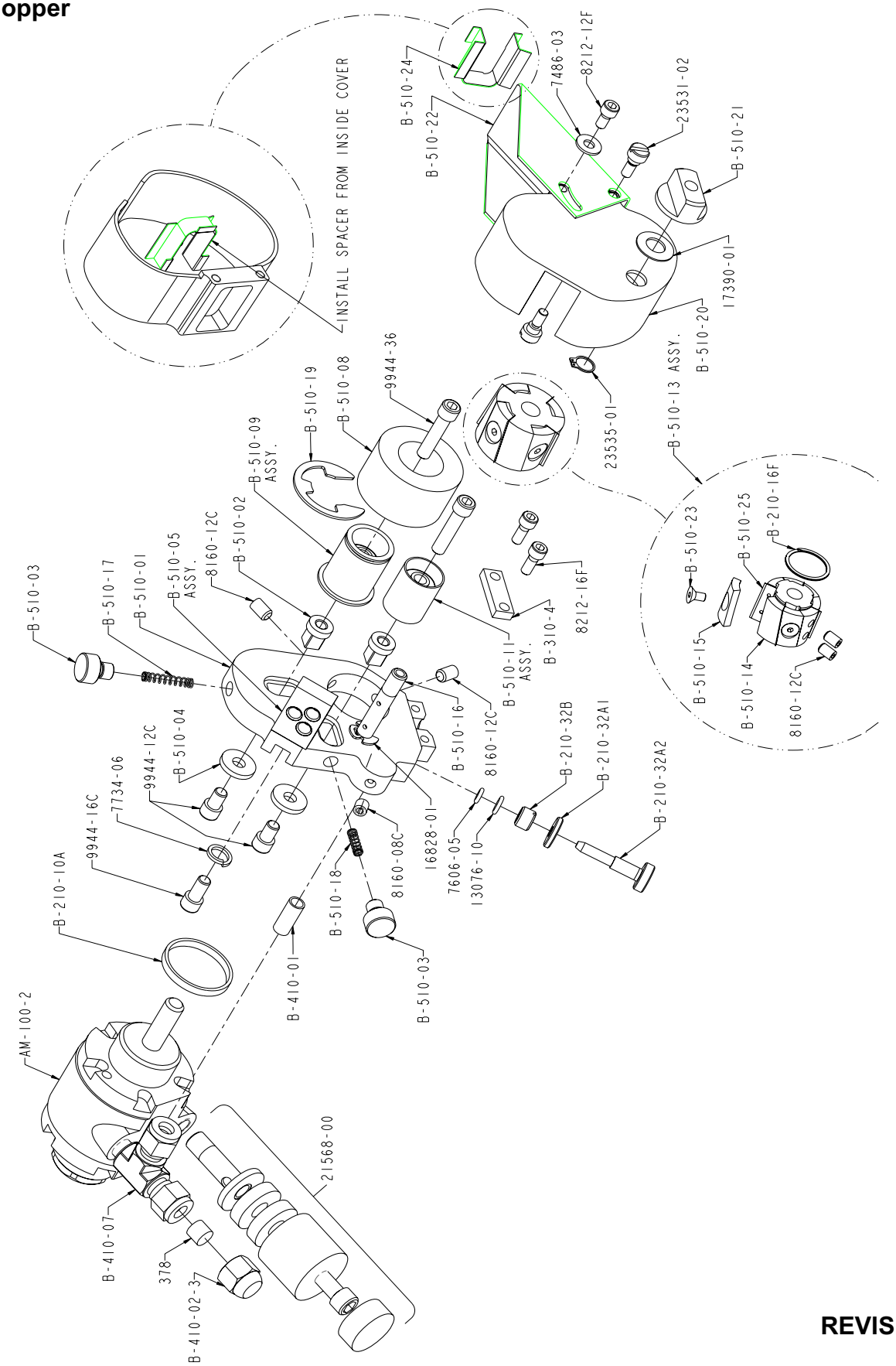
| Part Number | Description | Qty. |
|---|---|---|
| 21561-00 | LOCK NUT | 1 |
| 21562-00 | FELT WASHER | 2 |
| 21563-01 | SPEED KNOB | 1 |
| 21564-00 | MUFFLER TUBE | 1 |
| 21567-24F | SCREW | 1 |
| 7486-23 | WASHER | 1 |

| Part Number | Description | Qty. |
|---|---|---|
| B-210-17 | CUTTING HEAD BLADE | 100 |
| B-210-21W | SMALL WHITE RUBBER WHEEL | 1 |
| 5133-62MD | SNAP RING | 2 |

**REVISION R**

# Assembly Drawings

## B-510 Chopper




**REVISION D**

# Assembly Drawings

### B-510 Chopper

| Part Number | Description |
|---|---|
| 378 | FELT OILER |
| 13076-10 | O-RING |
| 13076-11 | O-RING |
| 16828-01 | RETAINING RING |
| 17390-01 | SPRING WASHER |
| 7486-03 | WASHER |
| 7606-05 | O-RING |
| 7734-06 | LOCK WASHER |
| 8160-08C | SET SCREW |
| 8160-12C | SET SCREW |
| 8212-12F | SCREW |
| 8212-16F | SCREW |
| 9944-12C | SCREW |
| 9944-16C | SCREW |
| 9944-36C | SCREW |
| **21568-00** | **CHOPPER MUFFLER ASSEMBLY** |
| 23531-02 | SHOULDER SCREW |
| 23535-01 | SNAP RING |
| AM-100-2 | AIR MOTOR ASSEMBLY |
| B-210-10A | AIR MOTOR SPACER |
| B-210-16F | SNAP RING |
| B-210-17 | CUTTING HEAD BLADE |
| B-210-32A1 | LOCK NUT |
| B-210-32A2 | THUMB SCREW |
| B-210-32B | CONTROL BLOCK NUT |
| B-310-4 | CUTTER CLIP |
| B-410-01 | AIR MOTOR TUBE |
| B-410-02-3 | NUT CAP |
| B-410-07 | TEE SWAGE PIPE FITTING |
| B-510-01 | BACK PLATE |
| B-510-02 | SLIDING LOCK |
| B-510-03 | ADJUSTMENT KNOB |
| B-510-04 | ADJUSTMENT WASHER |
| B-510-05 | FEED BAR |
| B-510-08 | LARGE WHITE RUBBER WHEEL |
| B-510-09 | ROLLER HUB |
| B-510-11 | IDLER BEARING |
| B-510-14 | ANGLE WEDGE CUTTER HEAD |
| B-510-15 | ANGLE WEDGE INSERT |
| B-510-16 | BLOWER TUB |

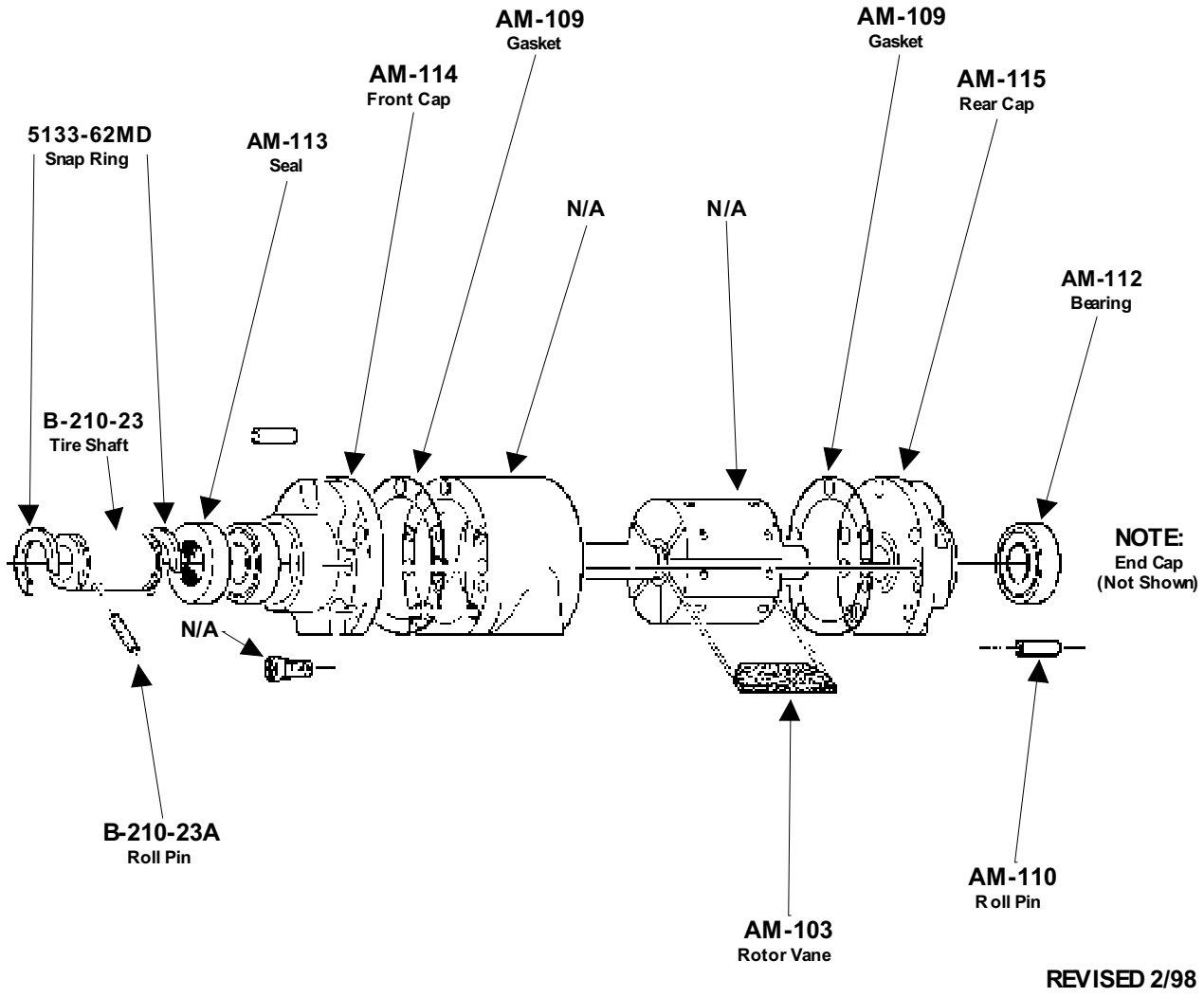
| Part Number | Description |
|---|---|
| B-510-17 | COMPRESSION SPRING |
| B-510-18 | COMPRESSION SPRING |
| B-510-19 | RETAINING RING |
| B-510-20 | GUARD CASTING |
| B-510-21 | TURN KNOB |
| B-510-22 | CHOPPER CHUTE |
| B-510-23 | SCREW |
| B-510-24 | COVER INSERT |
| B-510-25 | 1 in. CUTTING HEAD BLADE |
| B-510-71 | CUTTER SPARE PARTS KIT |
| GC-1021 | USER MANUAL |

| Part Number | Description | Qty. |
|---|---|---|
| 21561-00 | LOCK NUT | 1 |
| 21562-00 | FELT WASHER | 2 |
| 21563-01 | SPEED KNOB | 1 |
| 21564-00 | MUFFLER TUBE | 1 |
| 21567-24F | SCREW | 1 |
| 7486-23 | WASHER | 1 |

**REVISION D**

# Sub-Assembly Drawings

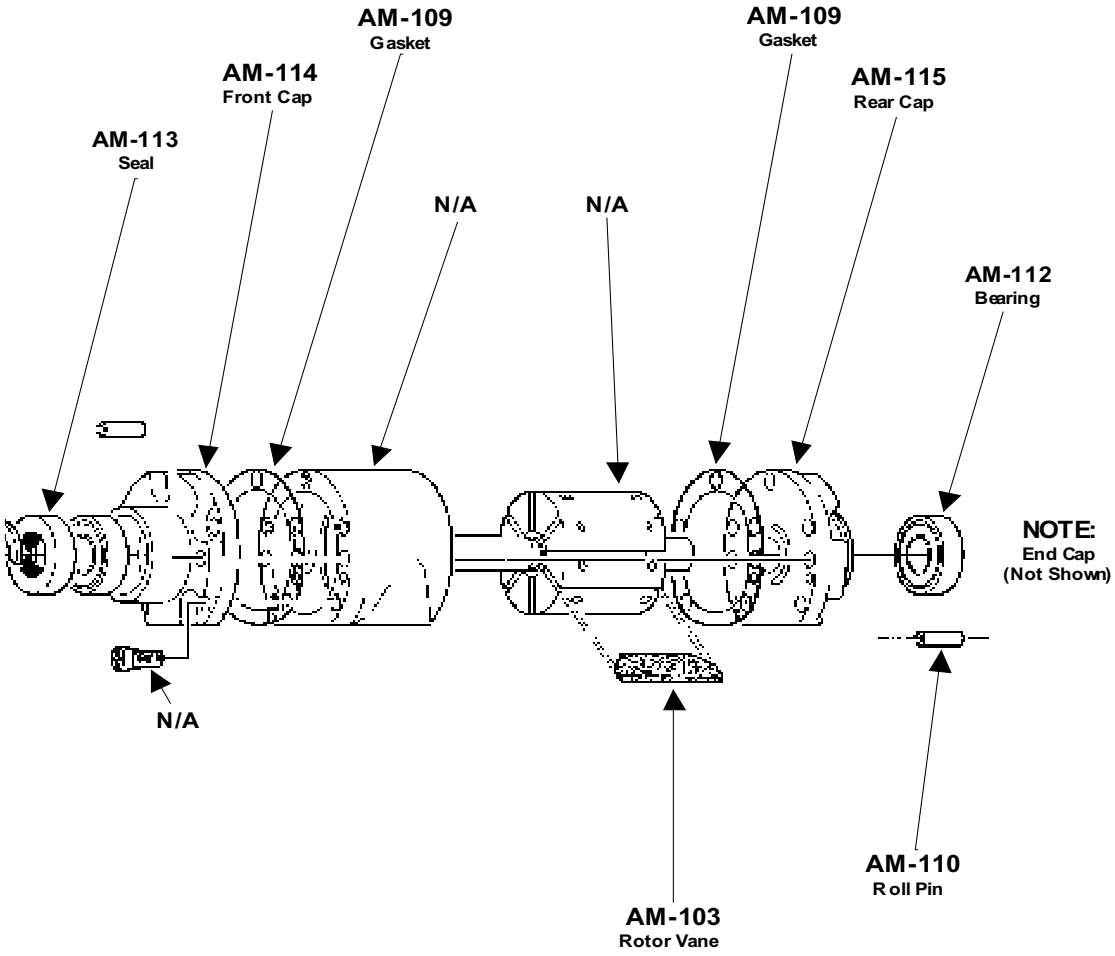
### AM-100 Air Motor (Used with B-410 Chopper)




## REPAIR KIT: AM-120

# Sub-Assembly Drawings

### AM-100-2 Air Motor (Used with the B-510 Chopper)




## REPAIR KIT: AM-120

# Maintenance

## Blade Replacement

*Refer to Figure 7 illustration during the following Blade Replacement instructions.*

*Use extreme caution when replacing cutter blades to avoid severe injury or amputation.*

### B-410

1. Using a small slotted-blade screwdriver, carefully pry out the Blade Retainer Bar, P/N B-210-16A, Retainer Bar Spring, P/N B-210-16B and the Blade, P/N B-210-17. Be careful not to lose these small parts as they come free of the slot. Clean slots before replacing Blades.
2. To re-insert Blades, place in slot, sharp edge out.

*It is very important that the Blade be held against the side of the slot which will contact the Anvil Roller first.*

3. Next, place in the Blade Retainer Bar, P/N B-210-16A and install Spring, P/N B-210-16B with a screwdriver or needle-nose pliers.

### B-510

1. Using a 1/8” Allen Wrench, loosen and remove P/N, B-510-23 screw. This will allow removal of P/N, B-510-15 wedge insert.
2. Remove old blade.
3. Clean slot on P/N, B-510-14 as necessary.
4. Install new blade. Set insert in properly.
5. Reinstall P/N, B-510-23 screw and snug tightly.

# Maintenance

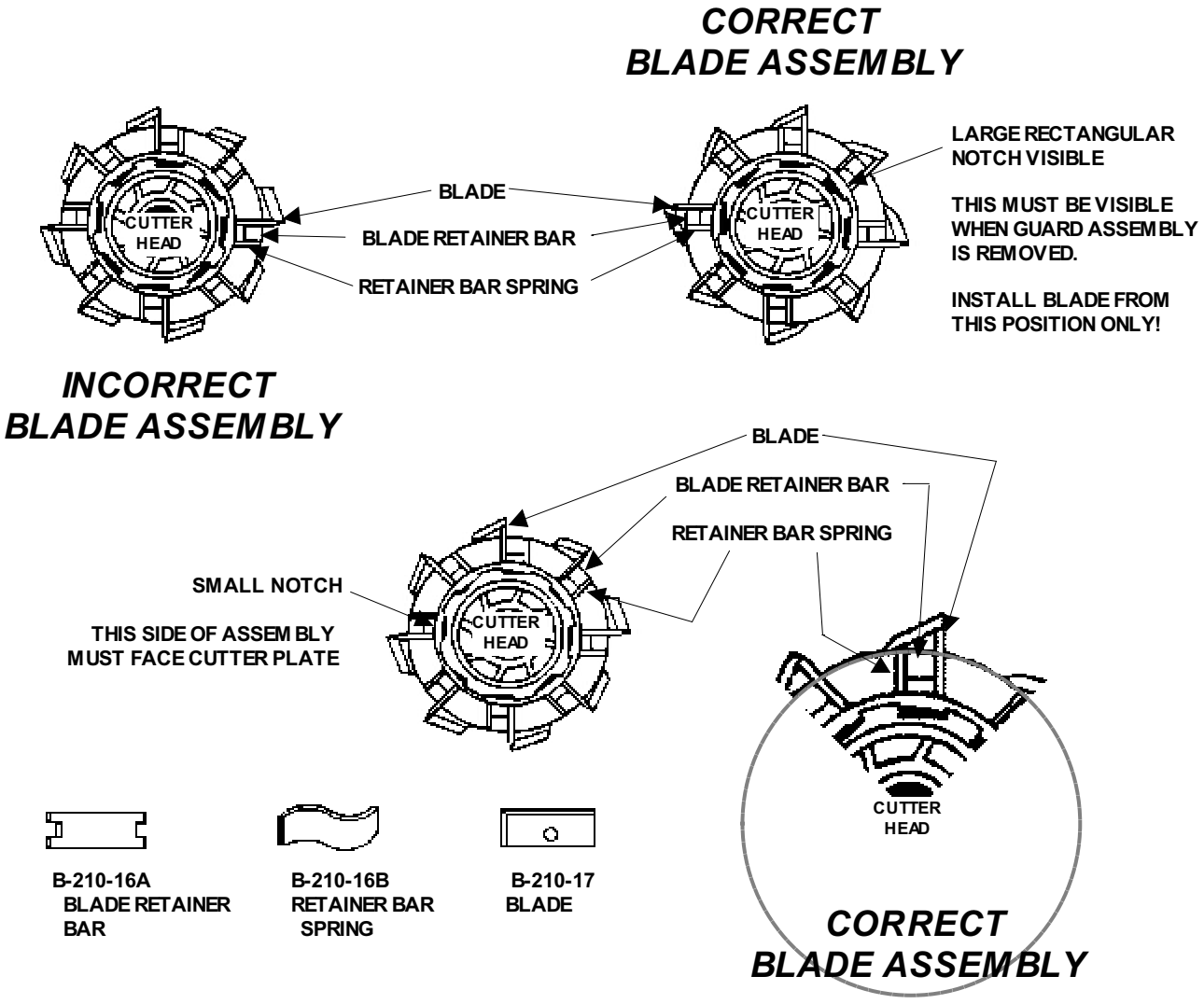



**Fig. 7**

# Maintenance

## Anvil Sleeve Replacement

If the Chopper fails to cut properly with new blades, the anvil roller needs replaced.

1. Remove Retaining Ring, P/N 5133-62MD with a screwdriver. Care must be taken not to spring the Retaining Ring excessively.

2. Slide or pry off the old anvil roller and install a replacement by pressing it in place. To prevent the blades from making deep cuts in roller' surface, be sure to rotate the roller as it is pressed on.

**Notice**

*Do not use a hammer when installing a new sleeve as permanent damage may result.*

3. Replace the Retaining ring with ordinary pliers.

4. Operate the Chopper for a minute or so with the cover in place, to run the new anvil roller. The Chopper should now start and run freely.

## Chopper Adjustments

Should adjustments be necessary, they may be accomplished by simply loosening either the Cutting Head or the Idler Bearing, rotating the Eccentric Nut in the back and retightening.

## B-410 Adjustments

1. Cutting head should have sufficient squeeze to cut properly. Excessive Anvil Squeeze or roll interference will overload the motor or create starting problems. Insufficient Squeeze will result in incomplete cutting.

2. Idler Bearing should be adjusted so there is only slight contact with the Anvil Roller. Excessive pressure will create motor drag and cause starting problems. Insufficient squeeze will allow the roving not to feed or drop out of the chopper when it is stopped.

## B-510 Adjustments

The B-510 adjustments are set at the factory during final inspection of the unit. This adjustment is set without running glass roving through the chopper. It is also important to remember that the chopper head is the drive mechanism of the assembly, adjustments are being made to the Rubber Roller, P/N B-510-08 and Idler Bearing, P/N B-510-11.

After feeding in the strands of roving "In Process" adjustments may be required. This adjustment is dependent on the type of glass roving being used and the number of strands.

## Adjust as follows:

1. Shut off air supply to chopper.

2. Loosen Lock Screw, P/N 9944-16C for the Rubber Roller, P/N B-510-08.

3. Loosen Adjustment Knob, P/N B-510-03 for the P/N B-510-08. This action will allow the glass in between the Cutter Head and Roller to relax and move roller away from Cutter Head slightly.

4. Retighten Lock Screw, P/N 9944-16C.

5. Loosen Lock Screw, P/N 9944-16C for the Idler Bearing, P/N B-510-11.

6. The Idler Bearing should now find its setting with the spring pressure applied to it.

7. Retighten Lock Screw, P/N 9944-16C.

8. Turn air supply on to chopper and operate, verify glass is consistently cut to length. Chopper Air Motor

**Notice**

*The clearances in this Motor range are from 0.0015 to 0.002 and are extremely critical. For this reason, it is advisable that the Motor NEVER be disassembled in the shop!*

# Maintenance

## Model B-410 / B-510

The Air Motor on your Chopper is precision built and under normal operation will last hundreds of hours of continuous use with proper care. It is recommended that the Oiler Felt, P/N 378, be lubricated with Air Motor Oil, P/N 562. Depending on use, it is generally recommended that two or three drops of oil be placed on the Felt every other day.

Before cutting glass:

1) RELIEVE AIR PRESSURE TO CHOPPER.
2) Remove Chopper Guard and carefully wipe clean excess oil on Guard, Anvil Sleeve, etc.
3) Replace Guard.

# Accessories

| B-510-71 Repair Kit | | |
|---|---|---|
| **Part Number** | **Description** | **Qty.** |
| B-510-25 | BLADES | 100 |
| B-510-08 | LARGE WHITE RUBBER WHEEL | 1 |

| B-210-71 Repair Kit | | |
|---|---|---|
| **Part Number** | **Description** | **Qty.** |
| B-210-17 | BLADES | 100 |
| B-210-21W | SMALL WHITE RUBBER WHEEL | 1 |
| 5133-62MD | SNAP RING | 2 |

| AM-120 Repair Kit | | |
|---|---|---|
| **Part Number** | **Description** | **Qty.** |
| AM-103 | VANE | 8 |
| AM-109 | GASKET | 2 |
| AM-112 | BEARING | 2 |
| AM-113 | SEAL | 1 |
| 7606-17 | O-RING | 1 |

| Chopper Snout Options | | |
|---|---|---|
| **Part Number** | **Description** | **Gun** |
| 23543-00 | OPEN SNOUT | INDY / FORMULA |
| 23543-01 | CLOSED SNOUT | INDY / FORMULA |
| 23543-02 | OPEN SNOUT | INDY X |
| B-210-91 | CLOSED SNOUT (NARROW) | LPA2 / INDY / FORMULA |
| B-210-92 | CLOSED SNOUT (WIDE) | LPA2 / INDY / FORMULA |

# Technical Data

| Category | Data |
|---|---|
| Maximum Air Inlet Pressure | 100 psi (0.7 MPa, 7 bar) |
| Maximum Fluid temperature | 100° F (38° C) |
| Dimensions B-410 | 6.93 L X 5.32 W X 3.84 H (176.02 X 135.13 X 97.54 mm) |
| Dimensions B-510 | 6.90 L X 5.52 W X 5.67 H (175.26 X 140.21 X 144.02 mm) |
| Weight B-410 | 2.75 Lbs. |
| Weight B-510 | 3.05 Lbs. |
| Sound Pressure B-410 | 65.03 dB(A) |
| Sound Pressure B-510 | 91.35 dB(A) |
| Sound Power, measured per ISO 9614-2 B-410 | 85.4 dB(A) |
| Sound Power, measured per ISO 9614-2 B-510 | 86.84 dB(A) |

# Graco Ohio Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

**THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

**GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO.** These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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# Graco Ohio Information

**TO PLACE AN ORDER,** contact your Graco distributor or call to identify the nearest distributor.
**Toll Free:** 1-800-746-1334 **or Fax:** 330-966-3006

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*Graco reserves the right to make changes at any time without notice.*

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